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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,254	11/27/2000	Norio Nagatsuka	SON-1684/KOI	7973

7590 09/29/2003

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EXAMINER

MARC, MCDIEUNEL

ART UNIT PAPER NUMBER

3661

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,254

Applicant(s)

NAGATSUKA ET AL.

Examiner

McDieunel Marc

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/3/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-83,85,86,88,89 and 91-106 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 85,86,88 and 91-106 is/are allowed.
- 6) ☒ Claim(s) 1,3,9,13,15,23,25,33,35,41,45,47,55,57,65-67,69,72-74,76,78-80 and 82 is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims objected to are 2,4-8,10-12,14,16-22,24,26-32,34,36-40,42-44,46,48-54,56,58-64,68,71,75,77 and 83.

DETAILED ACTION

1. Claims **1-83, 85, 86, 88, 89 and 91-106** are pending.
2. The objection to claims 2, 4, 12, 14, 24, 34, 36, 46, 54, 68, 70, 75 and 81 regarding the expression "living body", unlike the claims the specification stated "behaviors of a living body" and the robot "can behave naturally like a living body" is **maintained**.
3. The objection to the claims regarding the phrases "adapted for" or "adapted to" is **maintained**.
4. The rejection to claims 1, 3, 9, 13, 15, 23, 25, 33, 35, 41, 45, 47, 55, 57, 65, 66, 67, 69, 72, 73, 74, 76, 78, 79, 80 and 82 under 35 U.S.C. 102(b) is **withdrawn**.
5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
6. Claims **1, 3, 9, 13, 15, 23, 25, 33, 35, 41, 45, 47, 55, 57, 65, 66, 67, 69, 72, 73, 74, 76, 78, 79, 80 and 82** are rejected under 35 U.S.C. 102(b) as being clearly

anticipated by Hara et al. ("*Real-time Facial Interaction between Human and 3D Face Robot Agent*", 1996).

As per claims 1, 13, 23, 33, 45, 55, 65, 72, 78 and 89 Hara et al. teaches a robot device comprising (see Photos 1-3 below):

an emotion module in which a plurality of emotion units representing various emotions affect one another to output an emotion (see Fig. 5 and Table 2 below); and

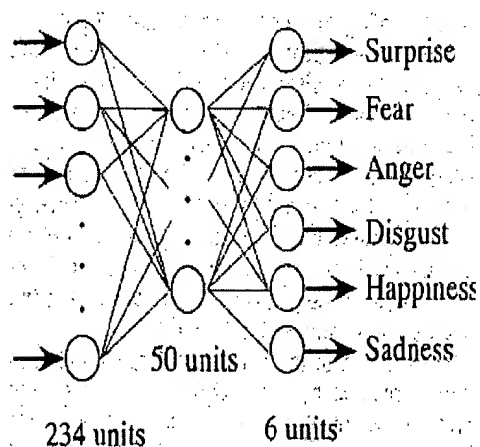


Fig.5 Structure of neural network

Table 2 Recognition result
training information: 15M

Facial expression	Recognized result					
	Sur.	Fear	Dis.	Ang.	Hap.	Sad.
Sur.	90	10	0	0	0	0
Fear	10	90	0	0	0	0
Dis.	0	0	60	40	0	0
Ang.	0	10	10	80	0	0
Hap.	0	0	0	0	100	0
Sad.	0	10	0	0	0	90

average : 85.0%

action means for acting on the basis of the emotion outputted by the emotion module (see Photos 2 and 3);

Hara et al. further teaches a robot device comprising (see Photos 1-3):

an emotion module in which a plurality of emotion units representing emotion output individual emotions (see Photos 2 and 3 below);

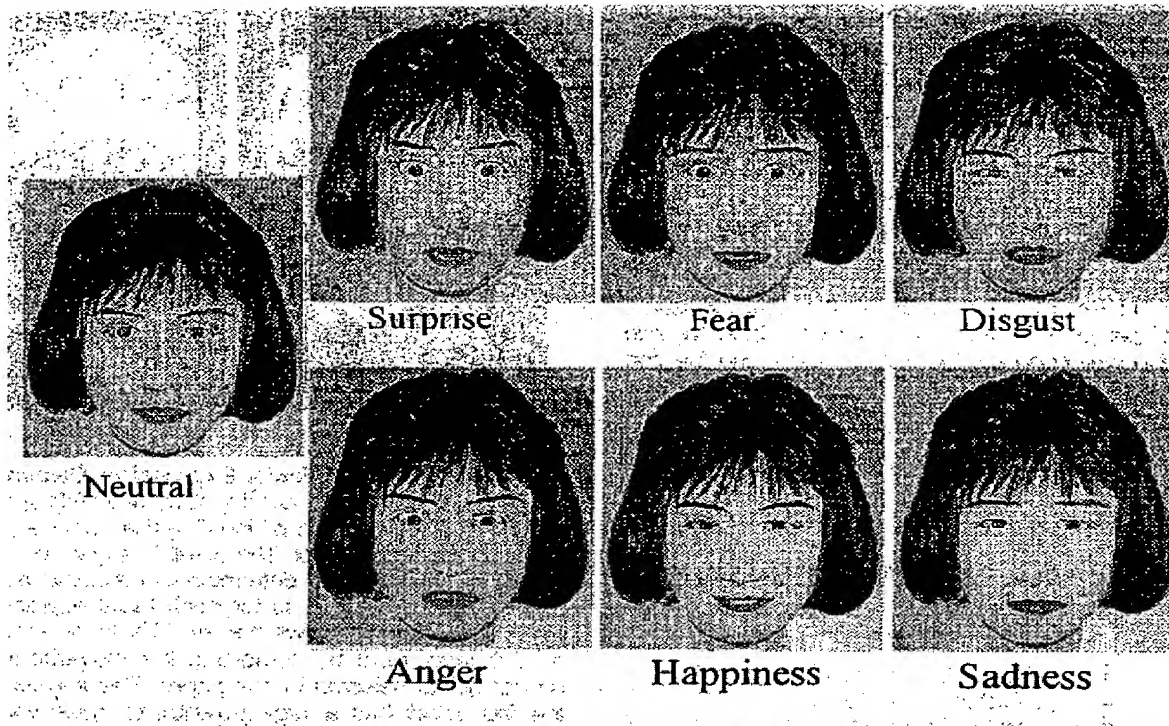


Photo.2 Neutral and 6 typical facial expressions expressed by face robot (FMA actuators used)

an instinct module in which a plurality of instinct units representing instincts outputs individual instincts (see Photo 3 and page 402, col. 1, section 2. *ACTIVE HUMAN INTERFACE*, lines 12-16); and

action means for acting on the basis of the emotion outputted by the emotion module and the instruct outputted by the instinct module (see Photos 2 and 3);

Hara et al. also teaches a robot device comprising (see Photos 1-3):

detection means for detecting a stimulus applied from outside (see Fig. 1, particularly the CCD);

storage means for storing the record of information related to the stimulus (see page 404, Fig. 5 and col. 1, 2nd paragraph);

response processing decision means for deciding response processing on the basis of the stimulus detected by the detection means (see Fig. 1 and Photo 3); and

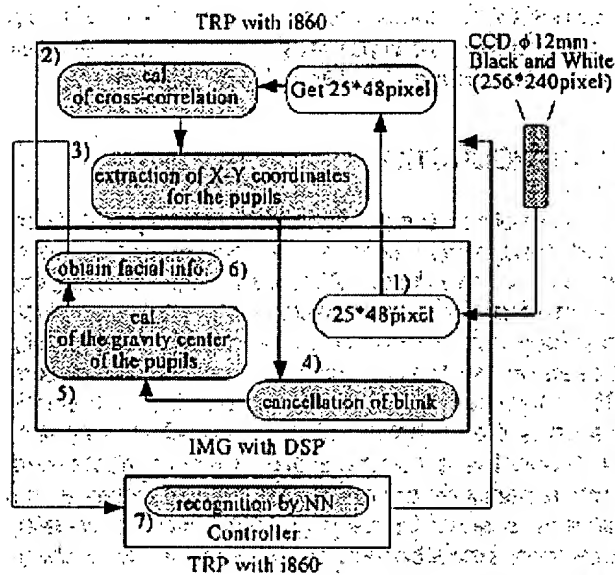


Fig. 1 Block diagram of transputers and CCD camera to obtain face image data

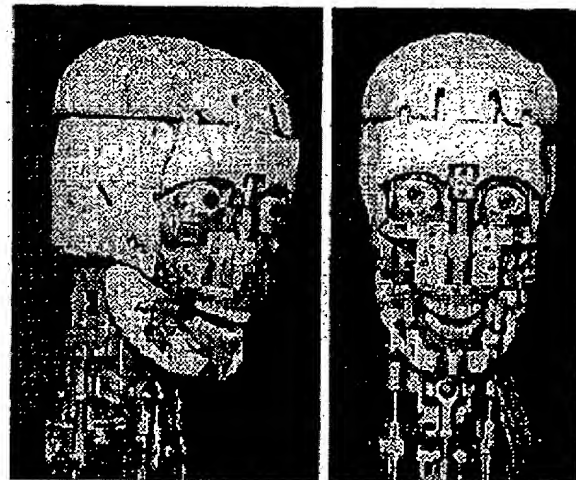


Photo 1: Skull frame of face robot

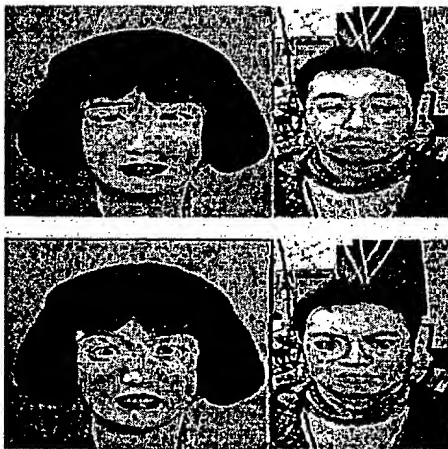


Photo 3 Facial reaction of Face Robot to the human facial expression

wherein the response processing decision means decides the response processing on

the basis of the record information stored in the storage means (see page 402, col. 2, Fig. 1 and page 404, col. 1, 2nd paragraph).

As per claims 3, 15, 25, 35, 47, 57, 67, 69, 74, 76, 80, 82 and 82, Hara et al. teaches a robot device as treated above wherein the emotion units are designed by an object-oriented design (see Fig. 5).

As per claims 9, 41, 66, 73, 76, 79 and 82 Hara et al. teaches a robot device wherein Hara's *et al.* camera capture/receive and send/transmit/notify emotion input received from the outside from a user/human/caregiver to the robot's emotion module thereby receiving an output facial expression accordingly (see Photos 1-3 and sections 2. to 5.).

Response to Arguments

As to the reference not teaching a plurality of instinct units (see Photos 2, 3 and fig. 5 above), please note that Hara *et al.* discloses six units that being considered as a plurality of instinct units wherein each one contains a particular module to output emotions, that is to say (Surprise, Fear, Anger, Disgust, Happiness and Sadness).

Allowable Subject Matter

7. Claims **85, 86, 88, 91-106** are allowed.

8. Claims **2, 4-8, 10-12, 14, 16-22, 24, 26-32, 34, 36-40, 42-44, 46, 48-54, 56, 58-64, 68, 71, 75, 77 and 83** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Applicant's arguments filed July 3rd, 2003 have been fully considered but they are not persuasive.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (703) 305-4478. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski, Jr. can be reached on (703) 308-3873. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


McDieunel Marc


William A. Cuchlinski, Jr.
PRIMARY EXAMINER

September 24, 2003

MM/